

Wisconsin's 1997 Lake Michigan Charter Report

INTRODUCTION

The charter boat industry in Wisconsin grew steadily from 188 licenses in 1976 to 524 licenses in 1985 and 1988. More recently the industry has declined to 243 licenses in 1997 but the number of trips and anglers has remained stable the past 6 years. Therefore, the charter industry still contributes significantly to the sport fishing on Lake Michigan.

The Wisconsin charter harvest has been fairly stable the last **seven** years at about 85,000 fish per year. However, Lake Michigan has changed dramatically over the last several years with the change in forage composition, introduction of exotics (*Bythotrephes cederstroemi* - spiny water flea, *Gymnocephalus cernuus* - ruffe, *Dreissena polymorpha* - zebra mussel and *Morone americana* - white perch) and continued stocking of salmonid species. Charter reports are used by the Department to evaluate the fishery on Lake Michigan so that we can respond to the ongoing changes.

Data from the Charter Fishing industry have been instrumental in several **key** management decisions the Wisconsin Department of Natural Resources has implemented in the last 10 years in Lake Michigan: 1) salmonid stocking was reduced by 10% in 1986 to reduce predation mortality on alewives; 2) chinook salmon stocking was reduced by 25% in 1991 to reduce predation mortality on alewives and 3) coho salmon daily bag limit was reduced from 5 to 3 in 1995 to increase the number of adult fish returning to brood stock collection facilities in fall. These actions have led

to an increase in the number of chinooks harvested as well as an increase in the number of coho salmon returning to collection facilities.

The objective of the charter boat reporting forms is to obtain information on not only the number, type and location of salmonids caught on Lake Michigan and Green Bay but also demographics on the people who fish on those charters. The information collected will 1) help Wisconsin Department of Natural Resources Fish Management determine stocking levels; 2) provide fish managers with important trend information concerning the status of stocked salmonids in Lake Michigan; and 3) provide important data on the type of people fishing and location of the fishing trips.

METHODS

General

At the beginning of each fishing season, a packet of information was sent to each licensee. This packet included notes on important fishing items, a sample of a completed monthly report, grid map of Lake Michigan, list of wardens, coded-wire tag collection stations, finclip list, sea lamprey information and a supply of monthly report forms.

Each license holder was required by law to report all paid charters. The report was to be mailed by the 10th of each month on the records for the preceding calendar month to the Plymouth Field Station of the WDNR. If a report was late or incorrectly filled out a warning letter was sent. Only one letter was sent per license holder and any subsequent violations were referred directly to a

Wisconsin Conservation Warden.

The information obtained from each form included: license number, fishing port, date of fishing trip, grid fished, number of resident and nonresident anglers, number of fished harvested, time each trip started (am, pm, evening), number of lines fished and number of hours fished. This information had to be recorded within half an hour after completing each trip after returning to the dock or shore. The number of lake trout, coho salmon, brown trout, steelhead, chinook salmon and other species caught, tag numbers present and the number of lampreys attached to chinook salmon and lake trout had to be recorded prior to midnight of the day of each trip. The data were received at the Plymouth Field Station, entered and checked for errors.

Charter report survey

During the 1997 season, creel clerks or field personnel during routine field activities would record whether a charter boat was out of port and many times they would record the actual number and types of fish caught. This project could help Fish Management determine the percentage of unreported charter trips and accuracy of the charter reports and thus unreported harvest of salmonids by comparing these results to the actual reports sent in by charter captains.

Telephone computer system

The current collection of fisheries data from charter boat captains requires them to submit their reports (i.e. effort and harvest information) by the 10th of each month for the previous months fishing activities on forms provided by the Department. This approach has led to incomplete, late, and incorrect reports,

lost reports in the mail and enforcement problems. A solution to the current method would be to use "transactional voice technology". This allows the charter captain to report their harvest over the phone with the data being directly loaded into an appropriate database. The captain would call a 800 number and use their unique sport trolling license number and a 4-digit PIN number to access the program. Data would be entered using a touch tone keypad by following simple directions and put directly into a database. This would eliminate the time and cost of data entry and would provide Fisheries Managers with the most current fishing data.

A test of the system was implemented in July and August of 1997 with 31 current charter captains. The captains called a 800 number and used their unique sport trolling license number and a 4-digit PIN number to access the program. Data was entered using a touch tone keypad by following simple directions and put directly into a database. Following this test, each captain was sent a survey asking them to rate the ease or difficulty in using the computer system.

RESULTS

Charter report survey

During the 1997 season, 134 charter boats were recorded by field personnel to be out of their mooring slips or recently returned from a charter trip. The data were loaded into a file and cross checked with reported trips from charter captains. A total of 100 trips or 75% of possible charter trips recorded by field personnel were reported by captains, with 34 (25%) unaccounted trips. Of the 100 confirmed reported trips, field personnel recorded actual number of fish

caught for 60 of those trips. Of those 60 trips, only 45 trips (75%) matched data received by charter captains on their monthly report form.

Over the past several years, the unaccounted trip percentage has been about 25% annually. In 1997, Fish Management again observed 25% of possible charter trips were not recorded as well as a 25% error rate on the number of fish caught on reported trips. These observations may indicate a possible problem with unreported trips as well as inaccurate reporting on validated trips. Further surveys and Law Enforcement checks may need to be done in 1998 to check the validity of these observations.

Telephone computer system

A total of 225 calls were received using the system with 240 trips entered. No errors were recorded during the entry of data compared to 2,105 errors detected on submitted report forms. A follow-up survey was sent to all captains that participated during the test. The captains were asked to indicate whether the computer system was easy or difficult to use based on a 1 through 5 rating system. A 1 indicated that it was easy and a 5 indicated that it was difficult to use. The average rating for all the questions was 1.5. Separate questions had the captains list potential problems and whether they would use the system on a volunteer basis in the future. A total of 6 out of 17 indicated they would use the system next year on a voluntary basis.

Compliance

During 1997, 79 or 33% of all charter captains did not send their reports in on

time. In addition, an average of 16 or 7% of all monthly charter reports were not sent in on time. The average compliance time for the monthly reports was about one month with the final compliance rate for 1997 of 99%.

Effort

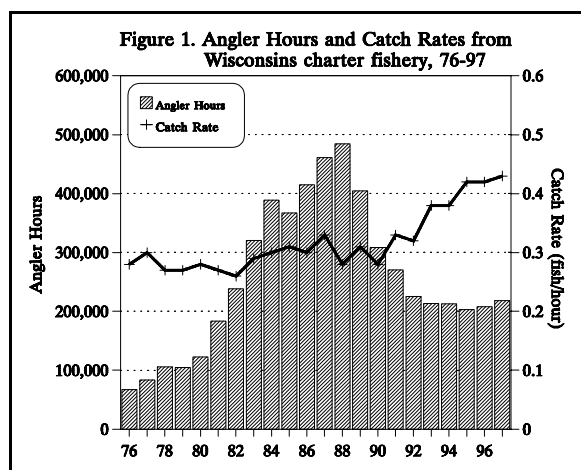
The number of charter licenses for the 1997 charter season was 243, which was the lowest since 1981 (Table 1), but the decline from the previous year was only 14 licenses, the third lowest decline in 9 years. The number of angler hours increased by 5% from 1996, the second increase in as many years (Figure 1). In addition, boat hours decreased by about 2% and line hours decreased by 4% (Table 1). The number of total anglers increased from 42,967 in 1996 to 45,537 in 1997 with the increase present in the resident angler category.

Change in angler effort, unlike previous years in which it was most noticeable at northern or southern ports, varied from port to port. Washington Island-Sturgeon Bay angler hours declined by 3% from 1996 the tenth straight year of declining effort (Table 4). Algoma-Kewaunee angler hours increased by 9% from 1996, the second straight year of increased fishing effort (Table 5). Two Rivers-Manitowoc angler hours decreased by 11% while Sheboygan angler hours increased by 14%, its highest effort in 4 years (Table 6 & 7). Both Port Washington-Milwaukee and Racine-Kenosha angler hours increased in 1997 by 6% (Table 8 & 9). The Sheboygan area had the largest increase over the last year increasing by 14% (Table 7).

Catch rate

The catch rate (number of fish caught per

hour) was 0.43 in 1997 (Table 2 & Figure 1). Despite a decrease in the number of captains the catch rate over the years has remained fairly constant and even increased. The catch rate for 1997 was the highest ever recorded. This can be attributed to the record coho salmon harvest in the south plus an increase in rainbow trout harvest in the Algoma-Kewaunee area and lake trout harvest in Racine-Kenosha. This parameter provides one of the best measures to evaluate the charter industry.



Harvest

Coho salmon returned as the number one harvested fish in 1997, dominating the catch at 34% with an all time record of 32,672 fish. The Chinook salmon harvest was second at 29% (27,046) (Table 3). A big increase in lake trout harvest from 1996 (+7,331 fish) was present. The brown trout harvest increased from 2,204 fish in 1996 to 2,733 fish in 1997, representing 3% of the harvest. Steelhead harvest increased by 1,849 fish from 1996 to 14,766 fish comprising 16% of the catch.

Chinook salmon catch rates (fish per angler hour) remained fairly constant

from area to area compared to previous years. The Washington Island-Sturgeon Bay anglers had the best catch rate (0.26 chinook/hour). Algoma-Kewaunee angler catch rate was also quite high (0.16 chinook/hour). The other ports had higher catch rates for chinook salmon than in previous years (0.07-0.11 chinook/hour)(Figure 2).

Coho salmon catch rates were highest in the Racine-Kenosha area at 0.38 coho/hour with Port Washington-Milwaukee substantially behind at 0.19 coho/hour. Due to coho migration patterns, anglers in other ports had very low coho catch rates (i.e. below 0.03 coho/hour)(Figure 2).

Steelhead catch rates were intermediate to low in all areas in 1997. Algoma-Kewaunee anglers had the highest catch rate at 0.15 steelhead/hour while the Two Rivers-Manitowoc fishermen were close behind at 0.10 steelhead/hour. All other ports had similar catch rates (0.03-0.07 steelhead/hour)(Figure 2).

Kenosha-Racine anglers had the highest catch rates for lake trout at 0.13 lakers/hour followed closely by Two Rivers-Manitowoc at 0.11 lakers/hour. The other ports had intermediate to low catch rates (0.03-0.07 lakers/hour)(Figure 2).

Brown trout catch rates were 0.01 or 0.02 in every port. The catch rates for brown trout are the lowest among the species and is reflected in their low harvest numbers in almost every year.

The monthly breakdown shown in Table 10 illustrates the monthly totals for angler hours, harvest and catch rates. In May, the catch rate was high at 0.76 fish/hour,

which is the second highest catch rate recorded in the last 13 years. The high catch rates can be attributed to the 5,697 coho salmon caught during this month. The catch rate declined but was still high at 0.60 in June based on the record coho salmon catch of 13,339 fish. The July catch rate decreased to 0.44 fish/hour with a steelhead, chinook salmon and lake trout harvest of 7,573, 10,956 and 5,300 and the second highest coho salmon harvest on record (8,514). The August catch rate of 0.34 fish/hour was the fourth highest its been in 13 years due to a record 4,085 coho salmon and 6,711 lake trout caught. The September and October catch rates of 0.30 and 0.35 fish/hour were also fairly high with large amounts of chinook salmon and lake trout taken in these months.

The homeport analysis (Tables 11-30) shows the breakdown of angler hours, catch rate and catch for the majority of ports captains listed on the Sport Trolling Guide Renewal License Application Form 9400-245R rev. 12-96. Anglers from five ports, including Algoma, Kenosha, Port Washington, Racine and Winthrop Harbor harvested 62,792 fish or 66% of all salmonids (Figure 4). Anglers from seven other ports, Gills Rock, Kewaunee, Manitowoc, Milwaukee, Sheboygan, Sturgeon Bay and Two Rivers harvested 28,768 fish or 30% of all salmonids. These ports comprised 96% of the harvested salmonids. Several ports had extremely high catch rates. Kenosha catch rates were 0.77 fish/hour followed by Racine at 0.64 fish/hour, Winthrop Harbor at 0.54 fish/hour and Sturgeon Bay at 0.49 fish/hour. Both the harvest and higher catch rates were concentrated in the southern and northern ends of Lake Michigan due to the excellent chinook and coho salmon harvest exhibited in 1997.

Sea lamprey incidence rates (lamprey per 100 fish) for Wisconsin water's of Lake Michigan (Table 31) for chinook salmon and lake trout were 0.07 and 0.36, respectively. These rates were much higher than previous years with many charter captains observing more lampreys than other years. The majority of the attached lampreys occurred in the southern ports from Sheboygan to Winthrop Harbor.

SUMMARY

The 1997 charter fishing season was very successful and will be remembered as the year for coho salmon. Anglers in 1997 caught a record number of coho salmon (32,672) breaking the previous high by 3,736 fish. A record number of coho salmon were harvested in June, July and August.

Inclement weather caused poor catches in May for all species except coho salmon but by mid-July through the end of the season, the catches of chinook salmon and lake trout picked up and were tremendous. It seems that the huge success of captains catching coho and chinook salmon attributed to the lower catches of both steelhead and lake trout in previous years but in 1997 despite the high numbers of coho and chinook salmon harvested, captains also were able to take advantage of the excellent steelhead and lake trout fishery.

TABLE 1
Wisconsin's Lake Michigan
Charter Fishery Effort: 1976-1997

Year	Number of charter licenses	NUMBER OF ANGLERS			EFFORT HOURS		
		Resident	Nonresident	Total	Angler hours	Line hours	Boat hours
1976	188	9,801	3,354	13,155	67,578	88,036	16,406
1977	200	11,478	4,910	16,388	83,820	113,510	19,403
1978	159	13,300	6,203	19,503	105,667	136,861	21,869
1979	144	13,483	7,099	20,582	104,649	144,866	22,528
1980	154	13,821	9,260	23,081	122,463	169,908	24,827
1981	172	16,731	15,421	32,152	183,525	249,821	34,822
1982	264	18,966	25,548	44,514	238,639	338,812	48,921
1983	364	21,770	38,577	60,347	320,724	472,184	67,407
1984	477	21,936	47,683	69,619	389,252	630,899	83,433
1985	524	21,536	46,764	68,300	367,182	620,720	80,063
1986	510	23,250	53,921	77,171	414,820	784,931	90,153
1987	497	24,776	61,613	86,389	461,351	889,752	99,608
1988	524	28,273	64,484	92,757	484,685	1,013,855	105,860
1989	501	24,648	53,772	78,420	404,432	883,946	89,381
1990	437	22,467	37,144	59,611	308,755	685,462	68,102
1991	388	20,867	32,789	53,656	270,414	602,725	60,014
1992	340	19,425	27,704	47,129	225,254	544,689	50,619
1993	295	19,797	24,356	44,153	213,198	539,429	47,930
1994	284	19,732	24,356	44,088	213,113	552,428	47,425
1995	264	20,019	22,443	42,462	203,019	505,786	44,449
1996	257	20,180	22,787	42,967	207,895	525,388	45,260
1997	243	22,656	22,881	45,537	218,044	504,659	44,238

TABLE 2
Wisconsin's Lake Michigan
Charter Fishery Catch Rate: 1976-1997

Year	Fish/Angler Hour	Angler Hours/Fish
1976	0.28	3.52
1977	0.30	3.34
1978	0.27	3.63
1979	0.27	3.68
1980	0.28	3.55
1981	0.27	3.71
1982	0.26	3.78
1983	0.29	3.44
1984	0.30	3.31
1985	0.31	3.24
1986	0.30	3.34
1987	0.33	3.07
1988	0.28	3.62
1989	0.31	3.21
1990	0.28	3.60
1991	0.33	3.06
1992	0.32	3.17
1993	0.38	2.62
1994	0.38	2.60
1995	0.42	2.39
1996	0.42	2.41
1997	0.43	2.31

TABLE 3
Wisconsin's Lake Michigan Charter Fishery Catch: 1976-1997
(Percent of Total Catch in Parentheses)

Year	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total Catch
1976	418 (2%)	1,261 (7%)	2,982 (15%)	11,449 (60%)	3,066 (16%)	19,223
1977	399 (2%)	1,986 (8%)	7,564 (30%)	9,660 (38%)	5,456 (22%)	25,117
1978	791 (3%)	2,508 (9%)	4,921 (16%)	11,873 (41%)	8,998 (31%)	29,136
1979	987 (3%)	1,460 (5%)	3,171 (12%)	13,978 (49%)	8,810 (31%)	28,420
1980	1,559 (5%)	1,149 (3%)	9,251 (26%)	9,900 (29%)	12,631 (37%)	34,526
1981	1,872 (4%)	1,525 (3%)	7,695 (16%)	17,464 (35%)	20,752 (42%)	49,455
1982	1,748 (3%)	873 (1%)	13,263 (21%)	20,997 (33%)	26,193 (41%)	63,150
1983	3,111 (3%)	1,967 (2%)	5,135 (6%)	46,730 (50%)	36,147 (39%)	93,129
1984	4,822 (4%)	3,247 (3%)	25,217 (22%)	34,503 (30%)	49,612 (42%)	117,709
1985	5,801 (5%)	2,790 (2%)	21,058 (19%)	26,475 (23%)	56,919 (50%)	113,293
1986	4,302 (3%)	4,003 (3%)	20,435 (16%)	27,857 (22%)	67,437 (54%)	124,034
1987	5,705 (4%)	15,635 (10%)	19,078 (13%)	32,696 (22%)	76,522 (51%)	149,636
1988	5,823 (4%)	20,491 (15%)	28,936 (22%)	37,463 (28%)	40,805 (31%)	133,518
1989	5,750 (5%)	21,300 (17%)	27,949 (22%)	34,016 (27%)	35,861 (29%)	124,876
1990	4,423 (5%)	12,937 (15%)	18,185 (21%)	26,829 (31%)	23,322 (27%)	85,696
1991	4,759 (5%)	15,378 (17%)	11,686 (13%)	25,893 (29%)	30,750 (35%)	88,466
1992	4,733 (7%)	13,961 (20%)	19,191 (27%)	16,718 (24%)	16,456 (23%)	71,059
1993	5,035 (6%)	24,891 (31%)	17,676 (22%)	17,249 (21%)	16,618 (20%)	81,469
1994	3,378 (4%)	24,641 (30%)	21,268 (26%)	14,212 (17%)	18,392 (23%)	81,891
1995	2,730 (3%)	23,065 (27%)	12,492 (15%)	18,332 (22%)	28,273 (33%)	84,892
1996	2,204 (3%)	12,917 (15%)	27,025 (31%)	9,972 (12%)	34,173 (39%)	86,291
1997	2,733 (3%)	14,766 (16%)	32,672 (34%)	17,303 (18%)	27,046 (29%)	94,520

TABLE 4
Washington Island-Sturgeon Bay Charter Fishery Effort,
Catch Rate, and Catch: 1976-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1976	17,008	.46	214	128	173	6,211	1,036	7,762
1977	12,367	.44	124	93	123	4,035	1,104	5,479
1978	27,541	.30	384	314	232	4,622	2,631	8,183
1979	21,110	.25	376	79	122	2,520	2,134	5,231
1980	36,801	.20	866	162	380	2,320	3,651	7,379
1981	50,039	.19	1,080	190	123	2,820	5,380	9,593
1982	50,447	.20	796	62	328	3,124	5,706	10,059
1983	60,919	.21	1,466	79	113	3,269	8,083	13,026
1984	66,086	.24	2,479	180	489	2,287	10,632	16,112
1985	75,126	.27	2,174	264	508	3,490	13,780	20,295
1986	83,667	.25	1,331	256	564	2,225	16,514	20,890
1987	93,025	.24	1,529	388	254	1,361	19,236	22,768
1988	91,762	.19	1,195	1,115	169	2,802	12,443	17,724
1989	84,449	.25	2,170	2,765	969	1,996	13,025	20,925
1990	65,502	.22	2,260	1,826	66	1,866	8,204	14,222
1991	57,774	.27	1,447	1,730	66	636	11,774	15,653
1992	36,360	.22	881	1,547	27	677	4,951	8,083
1993	36,181	.27	1,086	2,883	58	541	5,160	9,728
1994	30,919	.34	668	3,085	19	643	6,227	10,642
1995	29,109	.47	519	1,798	48	1,059	10,234	13,658
1996	27,439	.39	246	711	54	1,106	8,493	10,610
1997	26,587	.37	306	1,852	49	830	6,867	9,904

TABLE 5
Algoma-Kewaunee Charter Fishery Effort,
Catch Rate, and Catch: 1976-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1976	15,216	.28	56	358	185	3,202	491	4,292
1977	9,219	.35	41	533	505	1,721	398	3,198
1978	16,959	.29	37	738	200	3,029	929	4,933
1979	15,561	.33	50	301	146	3,923	737	5,157
1980	18,748	.33	162	378	984	2,950	1,741	6,215
1981	26,163	.29	153	302	283	3,610	3,190	7,538
1982	40,817	.22	206	211	726	2,962	4,971	9,080
1983	53,248	.25	394	839	403	4,219	7,570	13,427
1984	52,881	.29	419	928	1,051	3,246	9,468	15,174
1985	49,767	.32	526	729	482	3,070	10,927	15,752
1986	64,448	.26	333	1,379	349	2,535	11,986	16,582
1987	62,376	.33	441	3,420	378	2,779	13,692	20,710
1988	68,582	.24	393	4,205	375	4,237	6,901	16,111
1989	54,666	.31	361	6,436	1,130	3,719	5,108	16,754
1990	43,643	.27	284	5,274	355	2,384	3,426	11,723
1991	42,443	.33	498	6,094	374	2,088	5,060	14,114
1992	33,674	.30	400	5,255	213	1,071	3,185	10,124
1993	33,989	.41	595	7,748	338	1,374	3,789	13,844
1994	37,038	.40	295	8,019	214	1,382	4,898	14,808
1995	31,300	.47	294	5,496	256	2,490	6,117	14,653
1996	33,992	.40	173	2,892	222	2,306	8,134	13,727
1997	36,959	.39	131	5,408	218	2,542	6,086	14,385

TABLE 6
Two Rivers-Manitowoc Charter Fishery Effort,
Catch Rate, and Catch: 1976-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1976	6,987	.26	58	78	285	1,337	107	1,865
1977	8,421	.36	15	266	765	1,746	258	3,050
1978	12,370	.24	23	297	325	1,629	765	3,039
1979	14,811	.35	39	263	216	3,993	615	5,126
1980	11,536	.40	86	212	923	2,427	937	4,585
1981	19,912	.36	41	106	245	5,081	1,789	7,262
1982	21,849	.34	25	114	407	4,629	2,242	7,414
1983	29,073	.43	61	158	145	9,222	2,780	12,498
1984	52,421	.29	221	406	2,063	8,189	4,565	15,448
1985	45,700	.30	556	307	1,145	5,957	5,738	13,712
1986	50,583	.28	351	345	738	4,814	7,784	14,032
1987	96,651	.32	1,060	5,903	1,609	9,331	12,547	30,450
1988	100,263	.25	700	6,356	1,435	11,087	5,418	24,996
1989	72,052	.27	527	4,525	1,105	9,193	4,277	19,627
1990	37,264	.25	469	1,321	304	5,138	1,906	9,138
1991	28,599	.32	238	1,811	229	5,553	1,396	9,227
1992	23,434	.26	563	1,402	124	2,949	1,086	6,124
1993	20,470	.34	248	2,001	169	3,326	1,211	6,955
1994	17,597	.30	332	2,227	224	1,508	1,070	5,361
1995	16,010	.37	241	1,724	187	2,615	1,207	5,974
1996	17,370	.34	139	1,370	855	1,064	2,551	5,979
1997	15,425	.34	104	1,538	260	1,671	1,696	5,269

TABLE 7
Sheboygan Charter Fishery Effort,
Catch Rate, and Catch: 1976-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1976	6,142	.25	32	284	504	273	470	1,563
1977	9,374	.27	41	482	934	358	768	2,583
1978	7,748	.28	154	381	351	424	778	2,088
1979	13,137	.22	124	362	571	601	1,344	2,948
1980	16,381	.31	172	191	2,019	433	2,213	5,028
1981	22,137	.24	225	383	955	903	2,926	5,392
1982	35,860	.24	342	214	1,572	1,628	4,683	8,445
1983	54,136	.31	580	396	1,180	8,650	6,077	16,896
1984	68,200	.32	538	811	6,379	5,999	7,829	21,559
1985	65,851	.31	1,276	961	3,947	4,063	9,964	20,259
1986	68,677	.35	1,040	1,154	5,286	4,893	11,337	23,710
1987	63,243	.38	1,498	2,848	4,285	4,252	10,947	23,830
1988	75,690	.30	1,332	6,166	3,721	6,341	5,221	22,781
1989	60,532	.30	1,055	3,665	2,344	6,409	4,860	18,333
1990	48,129	.27	504	1,999	1,121	6,360	3,000	12,984
1991	41,143	.31	1,075	2,033	938	5,261	3,389	12,696
1992	36,833	.26	1,177	2,300	778	3,353	1,995	9,603
1993	32,125	.30	1,114	2,788	576	3,438	1,698	9,614
1994	30,095	.26	484	2,932	507	2,035	1,808	7,766
1995	27,314	.32	445	2,602	685	2,466	2,580	8,778
1996	27,368	.30	204	1,789	1,525	739	3,895	8,152
1997	31,240	.22	313	1,612	814	2,026	2,263	7,028

TABLE 8
Port Washington-Milwaukee Charter Fishery Effort,
Catch Rate, and Catch: 1976-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1976	16,315	.16	50	310	1,165	341	828	2,694
1977	22,316	.23	108	251	2,419	386	1,874	5,038
1978	14,764	.19	74	141	723	190	1,699	2,827
1979	24,871	.22	206	214	1,255	750	2,935	5,360
1980	24,245	.28	221	139	3,086	325	3,120	6,891
1981	33,912	.26	275	307	2,639	976	4,604	8,801
1982	51,003	.24	300	155	4,152	1,500	6,303	12,413
1983	62,181	.22	388	236	1,650	3,379	7,798	13,451
1984	74,265	.24	470	298	5,121	1,223	10,624	17,841
1985	84,489	.25	956	238	6,882	834	12,569	21,495
1986	88,424	.27	849	309	7,736	1,428	13,662	23,984
1987	92,629	.29	919	1,816	8,126	1,870	14,060	26,791
1988	95,298	.29	1,900	1,814	13,701	1,360	8,998	27,773
1989	82,424	.29	1,183	2,560	11,046	2,747	6,100	23,636
1990	69,510	.23	691	1,901	5,181	3,026	4,954	15,753
1991	56,995	.28	832	2,095	4,358	2,802	5,818	15,905
1992	49,710	.27	1,125	2,423	4,604	1,853	3,237	13,242
1993	47,411	.38	1,049	6,701	4,961	1,776	3,422	17,909
1994	49,067	.34	810	5,640	4,999	1,669	3,415	16,533
1995	53,449	.40	657	8,058	4,478	2,608	5,566	21,367
1996	48,910	.37	517	3,269	7,475	779	6,120	18,160
1997	51,723	.42	812	2,555	10,051	2,774	5,525	21,717

TABLE 9
Racine-Kenosha Charter Fishery Effort,
Catch Rate, and Catch: 1976-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1976	5,930	.17	8	103	670	72	134	987
1977	9,462	.26	13	115	1,781	93	421	2,423
1978	12,051	.26	54	206	1,694	342	886	3,182
1979	10,118	.20	24	107	831	392	683	2,037
1980	14,108	.29	51	61	1,816	1,323	832	4,083
1981	14,907	.32	19	123	1,836	1,626	1,243	4,847
1982	38,663	.41	79	117	6,078	7,154	2,288	15,736
1983	61,167	.39	197	259	1,538	17,991	3,839	23,831
1984	61,867	.44	414	441	9,189	12,533	4,335	26,917
1985	46,249	.47	313	291	8,094	9,061	3,941	21,780
1986	59,207	.42	398	560	5,762	11,962	6,154	24,836
1987	53,427	.47	258	1,260	4,426	13,103	6,040	25,087
1988	53,090	.46	303	835	9,535	11,636	1,824	24,133
1989	50,349	.51	454	1,349	11,355	9,952	2,491	25,601
1990	44,707	.49	215	616	11,158	8,055	1,832	21,876
1991	43,460	.48	669	1,615	5,721	9,553	3,313	20,871
1992	45,243	.53	587	1,034	13,445	6,815	2,002	23,883
1993	43,022	.54	943	2,770	11,574	6,794	1,338	23,419
1994	48,397	.55	789	2,738	15,305	6,975	974	26,781
1995	45,837	.45	574	3,387	6,838	7,094	2,569	20,462
1996	52,816	.56	925	2,886	16,894	3,978	4,980	29,663
1997	56,110	.65	1,067	1,801	21,280	7,460	4,609	36,217

Figure 3. Harvest of salmonids by area (i.e. grid location) for Wisconsin's 1997 charter season

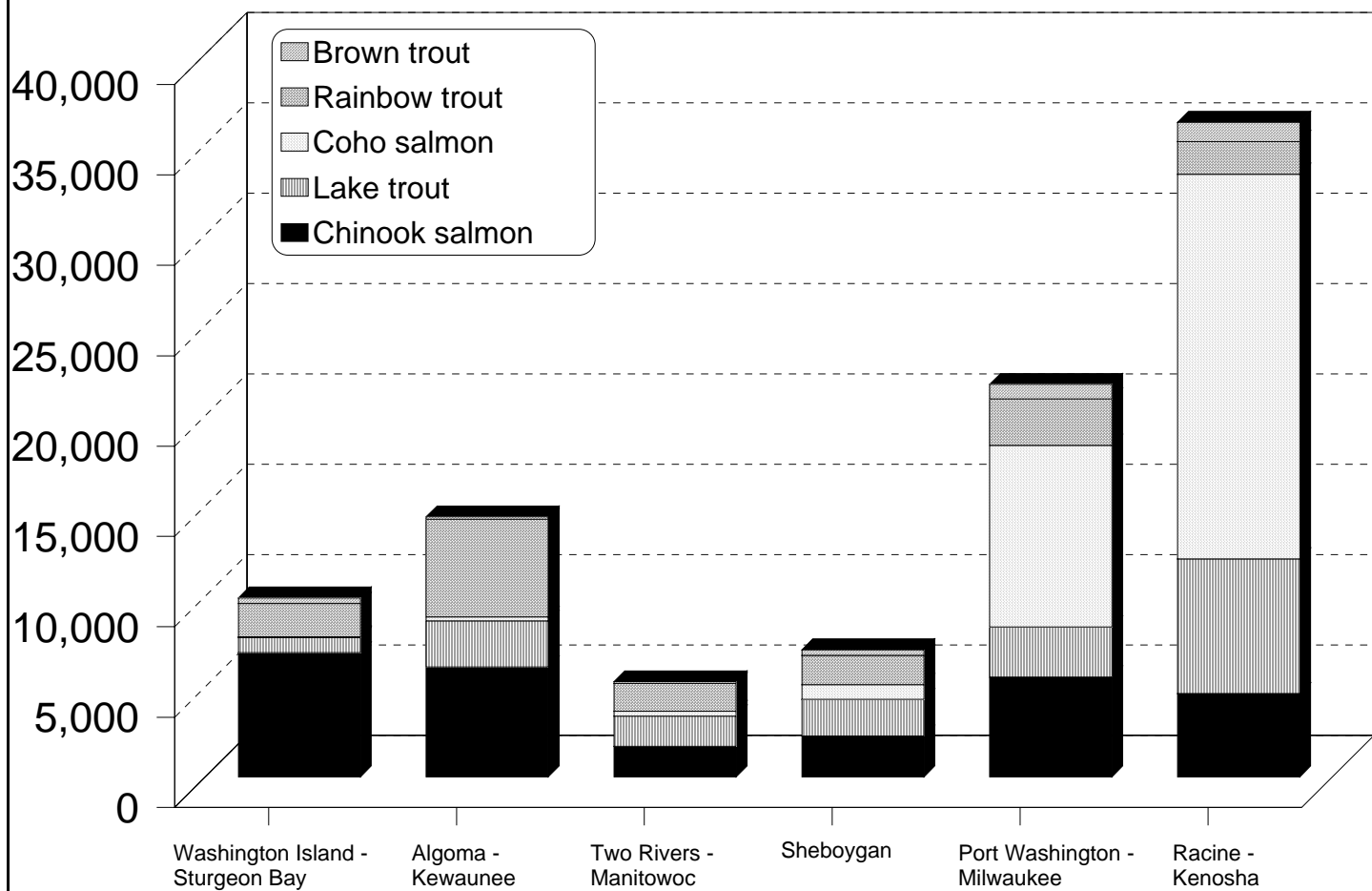


Table 10
Monthly Charter Fishery Effort, Catch and Catch Rate: 1985-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
Apr-85	1,980	0.52	278	4	532	86	117	1,031
-86	1,690	0.23	127	2	45	37	174	385
-87	3,133	0.17	269	2	143	0	119	533
-88	2,512	0.15	95	0	181	1	105	383
-89	2,509	0.25	263	4	282	44	30	623
-90	1,096	0.27	142	1	102	47	2	294
-91	608	0.30	143	0	19	20	3	185
-92	803	0.32	84	1	166	3	0	254
-93	306	0.18	45	2	7	0	0	54
-94	231	0.84	26	2	161	5	0	194
-95	480	0.20	43	2	33	15	3	96
-96	94	0.14	11	0	0	2	0	13
-97	315	0.26	34	2	14	25	8	53
May-85	29,907	0.36	512	165	5,893	1,390	2,893	10,907
-86	36,854	0.42	264	426	5,446	2,601	6,715	15,452
-87	48,326	0.32	510	1,028	6,365	6,435	1,336	15,694
-88	36,212	0.43	246	861	11,174	2,895	459	15,647
-89	32,326	0.43	275	904	10,672	1,827	320	13,998
-90	21,646	0.38	183	259	5,852	1,628	316	8,238
-91	18,155	0.43	214	527	5,197	1,820	120	7,878
-92	16,747	0.50	50	218	7,396	600	40	8,304
-93	13,508	0.64	128	765	6,889	820	72	8,674
-94	14,032	0.83	59	1,888	8,964	539	221	11,671
-95	11,984	0.45	95	1,299	3,249	568	145	5,356
-96	9,564	0.59	94	345	4,991	185	52	5,667
-97	8,906	0.76	187	319	5,697	403	169	6,775
Jun-85	85,148	0.30	1,151	740	8,081	8,000	7,344	25,417
-86	87,786	0.31	714	921	8,173	9,363	8,035	27,206
-87	98,871	0.33	823	3,579	8,172	9,750	10,026	32,350
-88	108,080	0.31	472	6,010	12,463	9,161	5,748	33,854
-89	95,019	0.32	456	8,483	9,654	10,777	1,451	30,821
-90	64,003	0.30	276	5,169	7,920	4,931	921	19,217
-91	59,237	0.34	349	6,340	3,734	7,987	1,749	20,159
-92	46,176	0.35	141	5,166	7,283	3,048	521	16,159
-93	42,611	0.43	335	6,014	7,247	4,021	666	18,283
-94	43,443	0.43	81	7,905	6,730	3,142	707	18,565
-95	44,681	0.40	96	7,421	3,774	5,362	1,012	17,665
-96	36,754	0.31	51	1,049	7,618	2,358	319	11,395
-97	37,920	0.60	248	4,769	13,339	2,702	1,800	22,858
Jul-85	127,833	0.31	2,134	941	4,455	9,898	22,838	40,281
-86	142,957	0.29	1,855	1,268	4,637	8,429	25,801	41,987
-87	153,669	0.35	2,427	2,980	2,887	8,478	37,380	54,152
-88	177,029	0.25	2,457	3,541	3,054	16,878	18,315	44,245
-89	134,403	0.30	1,064	8,961	4,280	13,018	13,032	40,355
-90	104,814	0.27	1,498	5,182	2,794	9,802	8,955	28,231
-91	93,287	0.33	871	6,822	1,834	8,933	12,544	31,004
-92	75,379	0.30	1,223	3,907	3,468	6,927	7,440	22,965
-93	68,884	0.37	1,229	8,603	2,656	5,151	7,778	25,417
-94	72,065	0.39	1,370	10,012	4,648	4,382	7,593	28,005
-95	71,313	0.53	1,459	9,768	4,694	5,165	16,417	37,503
-96	68,146	0.39	396	3,798	9,868	2,996	9,660	26,718
-97	75,359	0.44	760	7,573	8,514	5,300	10,956	33,103
Aug-85	93,707	0.31	1,455	644	1,692	5,978	18,918	28,740
-86	117,258	0.28	1,169	1,222	1,511	7,322	21,946	33,170
-87	115,960	0.30	1,237	5,678	1,009	7,230	19,813	34,967
-88	118,556	0.26	1,807	7,772	1,350	7,949	12,455	31,333
-89	104,657	0.30	2,855	1,577	2,511	7,673	16,995	31,611
-90	89,526	0.28	1,839	1,620	1,154	9,634	10,475	24,722
-91	76,203	0.32	1,898	1,362	663	7,036	13,422	24,381
-92	66,544	0.27	1,750	2,970	744	5,872	6,340	17,676
-93	67,215	0.35	2,243	7,548	749	6,450	6,837	23,827
-94	63,533	0.29	1,357	3,451	683	5,583	7,413	18,487
-95	55,097	0.35	827	3,011	636	6,169	8,911	19,554
-96	69,022	0.45	1,151	4,780	3,538	3,445	18,483	31,397
-97	68,271	0.34	957	1,627	4,085	6,711	9,966	23,346
Sep-85	28,041	0.24	263	282	396	1,095	4,597	6,646

-86	26,575	0.21	168	153	619	100	4,414	5,454
-87	39,226	0.28	421	2,072	493	801	7,263	11,050
-88	37,900	0.18	659	1,688	690	571	3,379	6,987
-89	32,118	0.21	792	996	539	665	3,756	6,748
-90	25,849	0.18	439	535	349	783	2,522	4,628
-91	21,455	0.22	1,199	266	235	89	2,828	4,617
-92	17,673	0.29	1,326	1,459	124	267	1,933	5,109
-93	19,327	0.26	977	1,861	127	807	1,213	4,985
-94	18,235	0.25	418	1,297	77	560	2,203	4,555
-95	17,582	0.24	191	1,535	96	969	1,420	4,211
-96	21,863	0.46	407	2,887	966	879	4,871	10,010
-97	24,117	0.30	392	353	876	2,060	3,575	7,256
Oct-85	566	0.48	8	14	9	28	212	271
-86	1,700	0.22	5	11	7	5	352	380
-87	2,166	0.42	18	296	9	2	585	910
-88	4,396	0.24	80	618	24	3	344	1,069
-89	3,400	0.21	45	375	11	12	277	720
-90	1,821	0.20	46	171	14	4	131	366
-91	1,469	0.16	85	61	4	8	84	242
-92	1,932	0.31	159	240	10	1	182	592
-93	1,347	0.17	78	98	1	0	52	229
-94	1,574	0.26	67	86	5	1	255	414
-95	1,882	0.27	19	29	10	84	365	507
-96	2,452	0.44	94	58	44	107	788	1,091
-97	3,156	0.35	155	123	147	102	572	1,099

TABLE 11
Algoma Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	29,633	0.36	429	4,446	159	1,345	4,166	10,545
1992	22,877	0.29	294	3,540	128	613	2,156	6,731
1993	25,043	0.43	457	6,067	188	1,036	3,129	10,877
1994	28,508	0.44	212	6,882	319	1,031	4,086	12,530
1995	23,286	0.51	243	4,292	332	1,915	5,052	11,834
1996	25,954	0.41	136	1,860	182	1,869	6,702	10,749
1997	26,031	0.42	81	3,954	279	1,919	4,715	10,948

TABLE 12
Baileys Harbor Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	7,377	0.29	217	624	19	78	1,213	2,151
1992	5,316	0.24	154	652	1	86	389	1,282
1993	7,181	0.41	264	1,128	127	121	1,308	2,948
1994	7,510	0.28	85	1,446	79	61	403	2,074
1995	4,198	0.38	46	425	9	353	778	1,611
1996	4,873	0.30	52	246	3	199	941	1,441
1997	3,519	0.36	8	541	2	140	561	1,252

TABLE 13
Ellison Bay Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	1,581	0.21	35	9	0	0	294	338
1992	1,005	0.19	40	2	0	0	148	190
1993	665	0.13	9	0	0	2	76	87
1994	860	0.24	23	4	0	0	180	207
1995	1,083	0.55	20	6	9	2	556	593
1996	1,362	0.42	13	1	0	21	532	567
1997	1,191	0.38	12	29	0	0	410	451

TABLE 14
Ephraim/Fish Creek Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	900	0.16	14	39	0	4	88	145
1992	95	0.12	5	0	0	0	6	11
1993	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-
1995	1,076	0.44	30	4	0	0	435	469
1996	805	0.11	7	1	0	0	80	88
1997	988	0.15	38	11	2	0	99	150

TABLE 15
Gills Rock Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	25,337	0.20	599	91	9	17	4,311	5,027
1992	17,992	0.14	488	91	6	10	1,858	2,453
1993	16,807	0.12	485	117	5	34	1,412	2,053
1994	13,225	0.27	381	309	4	74	2,789	3,557
1995	11,885	0.44	272	428	10	89	4,397	5,196
1996	9,613	0.26	130	61	60	103	2,137	2,491
1997	9,751	0.29	172	301	5	78	2,246	2,802

TABLE 16
Green Bay Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	1,475	0.24	6	122	12	10	201	351
1992	1,097	0.27	4	90	6	10	190	300
1993	90	0.22	0	0	0	0	20	20
1994	-	-	-	-	-	-	-	-
1995	244	0.49	0	0	0	0	119	119
1996	4	0.00	0	0	0	0	0	0
1997	263	0.16	5	7	7	5	17	41

TABLE 17
Kenosha Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	19,388	0.54	389	861	3,936	3,513	1,704	10,403
1992	21,585	0.62	256	548	8,914	2,741	884	13,343
1993	20,615	0.62	443	1,485	7,774	2,338	674	12,714
1994	19,292	0.62	285	1,035	8,244	1,979	327	11,870
1995	18,362	0.45	263	1,524	3,445	2,183	794	8,209
1996	17,586	0.62	190	1,327	7,115	979	1,318	10,929
1997	17,668	0.77	338	1,017	9,155	1,925	1,220	13,655

TABLE 18
Kewaunee Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	13,391	0.30	136	1,378	199	717	1,540	3,970
1992	8,352	0.26	84	1,043	77	326	640	2,170
1993	8,941	0.33	146	1,597	152	371	722	2,988
1994	9,286	0.33	95	1,590	89	401	855	3,030
1995	8,617	0.36	51	1,246	99	661	1,067	3,124
1996	9,029	0.39	40	1,127	58	481	1,853	3,559
1997	10,359	0.32	52	1,270	89	571	1,346	3,328

TABLE 19
Manitowoc Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	9,322	0.34	98	729	97	1,591	619	3,134
1992	6,205	0.26	245	443	61	514	372	1,635
1993	6,873	0.40	115	966	84	1,118	448	2,731
1994	6,148	0.35	148	994	76	495	413	2,126
1995	6,953	0.43	147	1,044	128	1,048	624	2,991
1996	6,326	0.40	70	712	408	351	1,012	2,553
1997	6,785	0.42	110	846	372	507	1,026	2,861

TABLE 20
Marinette-Menominee Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	1,392	0.12	138	5	2	0	16	161
1992	654	0.08	39	2	0	0	10	51
1993	304	0.37	100	0	2	0	9	111
1994	-	-	-	-	-	-	-	-
1995	275	0.21	39	1	0	0	19	59
1996	98	0.08	5	0	0	0	3	8
1997	-	-	-	-	-	-	-	-

TABLE 21
Milwaukee Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	15,155	0.26	310	397	773	473	2,063	4,016
1992	12,665	0.27	671	266	1,206	234	1,081	3,458
1993	14,991	0.35	901	819	1,313	668	1,500	5,201
1994	15,480	0.31	556	832	1,933	564	981	4,866
1995	16,690	0.32	430	1,005	965	521	2,348	5,269
1996	12,374	0.33	258	328	1,245	220	2,042	4,093
1997	13,404	0.40	510	301	2,726	741	1,138	5,416

TABLE 22
Port Washington Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	43,206	0.29	640	1,795	3,628	2,379	4,117	12,559
1992	37,023	0.26	459	2,164	3,357	1,577	2,147	9,704
1993	33,818	0.39	240	6,030	3,508	1,298	2,068	13,144
1994	36,367	0.35	301	5,287	3,324	1,278	2,602	12,792
1995	37,390	0.44	228	7,208	3,556	2,086	3,332	16,410
1996	38,856	0.40	305	3,088	7,167	618	4,368	15,546
1997	39,132	0.42	309	2,305	7,199	2,100	4,549	16,462

TABLE 23
Racine Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	16,646	0.43	137	400	1,525	4,477	636	7,175
1992	14,964	0.43	122	281	2,457	3,156	353	6,369
1993	16,261	0.44	268	609	2,806	3,317	219	7,219
1994	16,474	0.48	325	418	3,896	3,029	200	7,868
1995	13,751	0.43	122	553	1,624	3,136	450	5,885
1996	14,665	0.48	233	394	4,100	1,560	788	7,075
1997	16,524	0.64	289	382	6,115	2,953	775	10,514

TABLE 24
Rowley's Bay Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	-	-	-	-	-	-	-	-
1992	1,192	0.25	2	63	0	11	218	294
1993	-	-	-	-	-	-	-	-
1994	-	-	-	-	-	-	-	-
1995	601	0.77	9	71	3	26	355	464
1996	1,202	0.46	0	3	1	52	493	549
1997	1,215	0.46	16	136	5	10	386	553

TABLE 25
Sheboygan Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	42,196	0.31	1,076	2,086	924	5,413	3,497	12,996
1992	37,767	0.26	1,245	2,412	786	3,390	2,078	9,911
1993	31,478	0.30	1,103	2,773	562	3,288	1,673	9,399
1994	29,438	0.25	485	2,761	464	1,947	1,829	7,486
1995	27,318	0.32	447	2,573	625	2,410	2,581	8,636
1996	27,290	0.30	213	1,783	1,435	732	3,926	8,089
1997	30,648	0.23	314	1,591	790	2,020	2,228	6,943

TABLE 26
Sister Bay Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	974	0.13	26	101	0	0	0	127
1992	746	0.12	37	2	0	0	52	91
1993	691	0.05	22	0	0	0	15	37
1994	715	0.11	53	0	0	0	29	82
1995	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	-	-	-

TABLE 27
Sturgeon Bay Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	12,977	0.41	226	864	49	486	3,656	5,281
1992	11,074	0.44	73	1,638	34	704	2,394	4,843
1993	9,002	0.48	131	1,647	40	385	2,076	4,279
1994	7,971	0.57	90	1,292	12	494	2,617	4,505
1995	9,210	0.52	95	1,051	30	643	2,993	4,812
1996	8,619	0.56	32	366	26	764	3,602	4,790
1997	8,847	0.49	41	938	28	608	2,721	4,336

TABLE 28
Two Rivers Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	17,989	0.32	124	991	104	3,939	649	5,807
1992	14,453	0.25	300	484	42	2,377	471	3,674
1993	12,422	0.31	113	887	60	2,094	674	3,828
1994	9,556	0.28	157	1,000	74	919	495	2,645
1995	8,065	0.34	92	601	58	1,470	532	2,753
1996	9,316	0.31	52	543	381	598	1,345	2,919
1997	9,245	0.33	39	682	96	1,330	935	3,082

TABLE 29
Washington Island Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	4,448	0.21	15	14	0	1	886	916
1992	1,079	0.24	4	30	3	5	218	260
1993	1,256	0.13	2	30	0	5	131	168
1994	567	0.33	7	29	0	3	147	186
1995	1,042	0.52	5	15	2	2	514	538
1996	900	0.36	11	0	0	8	305	324
1997	1,112	0.29	7	17	1	0	293	318

TABLE 30
Winthrop Harbor Charter Fishery Effort,
Catch Rate, and Catch: 1991-1997

Year	Angler Hours	Fish per Angler Hour	Brown Trout	Rainbow Trout	Coho Salmon	Lake Trout	Chinook Salmon	Total
1991	2,452	0.40	43	142	48	474	300	1,007
1992	7,420	0.33	182	167	1,683	871	660	3,563
1993	6,740	0.54	236	736	1,055	1,174	464	3,665
1994	11,716	0.52	175	762	2,754	1,937	439	6,067
1995	12,973	0.46	191	1,018	1,597	1,787	1,327	5,920
1996	19,023	0.55	457	1,077	4,844	1,417	2,726	10,521
1997	20,805	0.54	384	407	5,787	2,230	2,315	11,213

TABLE 31
Sea Lamprey incidence (lampreys per 100 fish) for chinook salmon and lake
trout harvested by Wisconsin's charter boat fishery in Lake Michigan, 1992-1997.

Year	Chinook salmon	Lake trout
1992	0.09	0.35
1993	0.05	0.26
1994	0.05	0.18
1995	0.10	0.20
1996	0.04	0.17
1997	0.07	0.36

Figure 4. Harvest of salmonids by homeport for Wisconsin's 1997 charter season

